

**CLAIMS**

1           1.       A method for facilitating profiling of an application, comprising:  
2           intercepting application instructions immediately before their execution;  
3           determining if an application instruction is a frequently used instruction  
4           according to a pre-established policy; and  
5           only if the application instruction is a frequently used instruction,  
6           instrumenting the application instruction so as to facilitate collection of information  
7           about execution of the application instruction.

1           2.       The method of claim 1, wherein the intercepted application instructions  
2           are application binaries.

1           3.       The method of claim 1, wherein determining if an application  
2           instruction is a frequently used instruction comprises consulting a program counter  
3           associated with the application instruction.

1           4.       The method of claim 1, wherein instrumenting the application  
2           instruction comprises instrumenting the application instruction to collect information  
3           as to the fact that the application instruction was executed.

1           5.       The method of claim 1, wherein instrumenting the application  
2           instruction comprises instrumenting the application instruction to collect information  
3           as to what other application instruction called the intercepted application instruction.

1           6.     The method of claim 1, wherein instrumenting the application  
2     instruction comprises instrumenting the application instruction to collect information  
3     as to what application instructions the intercepted application instruction calls.

1           7.     The method of claim 1, wherein instrumenting the application  
2     instruction comprises instrumenting the application instruction to increment a counter  
3     representing a number of processor cycles or a counter representing the number of  
4     instructions executed.

1           8.     The method of claim 1, further comprising recording information as to  
2     the execution of the intercepted application instructions.

1           9.     The method of claim 8, wherein recording information comprises  
2     recording information as to the execution of code stored in a shared library that the  
3     application accesses.

1           10.    The method of claim 1, further comprising determining if code  
2     associated with the application instructions has been cached.

1           11.    The method of claim 10, further comprising executing the cached code  
2     in lieu of the intercepted application instructions if associated code has been cached.

1           12.     A system for facilitating profiling of an application, comprising:  
 2           means for intercepting application instructions before they are executed;  
 3           means for determining if an application instructions are used frequently; and  
 4           means for instrumenting frequently used application instructions to facilitate  
 5           collection of information about execution of the application instructions.

1           13.     The system of claim 12, wherein the means for determining if an  
 2           application instruction is a frequently used instruction comprise means for counting  
 3           the number of times the application instruction is executed.

1           14.     The system of claim 12, wherein the means for instrumenting the  
 2           application instruction comprise means for instrumenting the application instruction  
 3           to collect information as to at least one of the fact that the application instruction was  
 4           executed, what other application instruction called the intercepted application  
 5           instruction, and other application instructions the intercepted application instruction  
 6           calls.

1           15.     The system of claim 12, wherein the means for instrumenting the  
 2           application instruction comprise means for instrumenting the application instruction  
 3           to increment a counter representing a number of processor cycles.

1           16.     The system of claim 12, further comprising means for recording  
 2           information as to the execution of the intercepted application instructions.

1           17.     A program that facilitates profiling of an application and that is stored  
2     on a computer-readable medium, the program comprising:  
3           logic configured to intercept application binaries;  
4           logic configured to determine if an application instruction is a frequently used  
5     instruction; and  
6           logic configured to instrument the application instructions that are determined  
7     to be frequently used instructions so as to facilitate collection of information about  
8     execution of the application instruction.

1           18.     The program of claim 17, wherein the logic configured to determine if  
2     an application instruction is a frequently used instruction comprises logic configured  
3     to count the number of times the application instruction is executed.

1           19.     The program of claim 17, wherein the logic configured to instrument  
2     the application instruction comprises logic configured to instrument the application  
3     instruction to collect information as to at least one of the fact that the application  
4     instruction was executed, what other application instruction called the intercepted  
5     application instruction, and other application instructions the intercepted application  
6     instruction calls.

1           20.     The program of claim 17, wherein the logic configured to instrument  
2     the application instruction comprises logic configured to instrument the application  
3     instruction to increment a counter representing a number of processor cycles.

1           21.    The program of claim 17, further comprising logic configured to  
2   record information as to the execution of the intercepted application instructions.

1           22.    A method for facilitating profiling of an application, comprising:  
2           intercepting application binaries prior to their execution;  
3           determining if associated code has been cached;  
4           executing the cached code if associated code has been cached;  
5           recording information about the execution of the application binaries if  
6   associated code has not been cached;  
7           instrumenting the application binaries if they are determined to be frequently  
8   executed binaries; and  
9           caching code associated with the application binaries that includes  
10   instrumentation.

1           23.    The method of claim 22, wherein instrumenting the application  
2   binaries comprises instrumenting the application binaries to collect information as to  
3   the fact that the application binaries were executed.

1           24.     The method of claim 22, wherein instrumenting the application  
2     binaries comprises instrumenting the application binaries to collect information as to  
3     what other application binaries called the intercepted application binaries.

1           25.     The method of claim 22, wherein instrumenting the application  
2     binaries comprises instrumenting the application binaries to collect information as to  
3     other application binaries the intercepted application binaries call.

1           26.     The method of claim 22, wherein instrumenting the application  
2     binaries comprises instrumenting the application binaries to increment a counter  
3     representing a number of processor cycles.

1           27.     The method of claim 22, wherein recording information comprises  
2     recording information as to the execution of code stored in a shared library that the  
3     application accesses.

1           28.     A method for facilitating profiling of an application, comprising:  
2     intercepting application code fragments prior to their execution;  
3     determining if code associated with the fragments has been cached;  
4     executing the cached code if associated code has been cached;  
5     determining the number of very long instruction words (VLIWs) being  
6     executed for each code fragment;  
7     instrumenting the application code fragments if they are determined to be  
8     frequently executed fragments; and  
9     caching code associated with the code fragments that includes instrumentation.

1           29.     The method of claim 28, wherein instrumenting the code fragments  
2     comprises instrumenting the fragments to collect information as to the fact that the  
3     fragments were executed.

1           30.     The method of claim 28, wherein instrumenting the code fragments  
2     comprises instrumenting the fragments to increment a counter representing a number  
3     of processor cycles.